Application number: 10/690,960   Applicant: Jay B. Dinhofer   Examiner: Bena Miller 3712

REMARKS

In order to understand the exclusivity and novelty of our claims you must understand the difference in the actions of the three different types of springs that are used and presently patented in a large number of devices. You must also be aware of the differences in action that can be obtained from the same type of spring. Enclosed is a Glossary of spring definitions and Hooks law related to the design differences of similar springs.

The three types of springs with examples of the same spring performing different functions is as follows:

1) the **TORSION SPRING** which derives it's usefulness by trying to return to it's original shape when subject to a load traveling around its axis, in other words trying to return to its original shape when twisted. The two best examples are the hair-spring in a wind-up watch and the clothespin spring.

2) the **EXTENSION SPRING** which derives its usefulness because it pulls against a load which make it longer, in other words it returns back to its original position when stretched out and released. The two best examples are the Slinky toy spring and the screen door spring.

3) the **COMPRESSION SPRING** which derives its usefulness because it pushes against a load which makes it smaller, in other words it snaps out to its original position when squeezed and released. The two best examples are our gyrating toy and the shock absorbing springs in a car.

In each of the above three types of springs I have included as examples a soft spring and a stiff spring in accordance with Hooks Law. The easiest way to understand the difference between a soft spring and a stiff spring is to compare the Slinky spring and the

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~~the locking indentations on the end of the spring, described in claim 6), index the face and the feet so they are always facing in the proper direction,~~
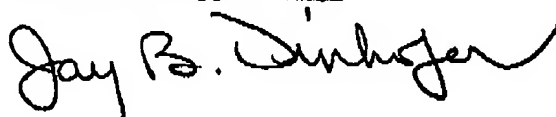
[a light weight piping is snaked around the coiled spring to simulate clothing without attenuating the oscillations.

Changed to:] The bouncing, gyrating toy doll described in claim 1 wherein a light weight piping is snaked around the coiled spring to simulate clothing without attenuating the oscillations of the spring .

14) (Currently amended) [Wherein the open base of the spring is crosshatched or closed preventing a young child from placing the spring over his head like a hat. **Changed to:]** The bouncing, gyrating toy doll of claim 1, wherein the large circular molded plastic channel at the base of the spring is crosshatched diametrically across its diameter preventing a young child from placing the spring over his head like a hat.

15) (Currently amended) [Wherein a filament is connected between the weighted head and the weighted base, the length of the filament allowing it to remain slack while the toy is oscillating but when the toy is lifted by the head or the hand the filament does not allow the weighted base of the spring to stretch the spring beyond its tensile limit and distort. **Changed to:]** The bouncing, gyrating toy doll of claim 1, wherein a mono-filament, being no part of the action of the toy, is connected between the base of the weighted head and the weighted base, with the length of the filament being longer than the maximum apogee of the spring when in play allowing the filament to remain slack while the toy is oscillating not interfering with the development of the kinetic energy in the spring and not adding to the play value of the spring or adding any friction or obstruction but when the toy is not in use and is lifted and carried by the head or the hand the filament prevents the weighted base of the spring from stretching the spring beyond its tensile limit and permanently distorting itself.

Amendments approved by:

Jay B. Dinhofer

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screen door spring. If it were not for the fact that the Slinky spring is a soft spring it would just be a door spring with a slightly larger outside diameter and not patentable. Being a soft spring give Slinky an entirely different action than the stiff door spring.   The same is true of the hair-spring in the watch and the and the close -pin spring. If the close-pin spring was a lighter weight spring it would be a hair-spring. This is also true of our soft spring gyrating toy spring compared to the automobile spring and all the other stiff spring compression spring toy patents. If the automobiles spring was much lighter it would be our gyrating toy spring.

Your reference to Janas toy doll is not applicable to our claim since Janas is not a compression spring but an extension spring as described in Janas (claim 7) calling itself a contracted spring adapted to be stretched upon grasping the head and pulling thereon and striking a blow on the sound producing device when the spring has been stretched and is then released. This describes an extension spring not a compression spring. Janas is also an example of a stiff spring which cannot be easily compressed if it can be compressed at all as shown in (fig. 6). The base (2) is a circular suction cup with no weight and no indexing means. When the head is pulled up you pray the suction cup will hold to the surface to which it is attached and not release and shoot up cutting off a few fingers in the process. The weight of the head and the weight of the feet are not involved in the action of the toy. Janas does not require indexing to the base and the head because there is no front or back to the base. (16) – (16) are not finger grips. They are soft material sewn to the garment and would immediately tear off if used as finger grips to stretch the spring. As far as a doll's head (1) shoulders ....

wire will rotate under the 'ears' (12)--(12) with ease. A suction cup can not be considered an open base (fig. 2). Janas toy doll is a one-shot action and reload toy

Molenaar spring toy is a Slinky extension spring as shown in (fig. 7), with a cartoon printed on it. Stretch the spring and the cartoon expands. Wilgoz lighted coil spring amusement device is again a Slinky toy extension spring (fig. 1) with lights that flash as the Slinky walks down the steps. The weight of the lights would be enough to make the Slinky action inoperable. Thomas articulated toy is not intended to bounce in place. According to the claims everything is done to slow down its motion and prevent it from bouncing and swaying including an airtight portion (23) as a noise maker, a stiff spring compression spring to slow down the motion of the arms to the mouth for more drinking realism, limiting means (36) attached to the spring to prevent the spring from extending beyond its normal standing position which would cause the beer mug to hit the drinker in the face and all the tight clothing (12) prevents the spring from taking any spontaneous action. There is also no importance or relationship to the weight of the head and the weight of the feet to the action of the toy. The toy is also designed to expand and compress only one time that is when it is pressed down and returned to it's original position by the operator. The repetitive action of the operator not the spring makes the beer mug do its thing. Thomas's articulated toy is a one shot and reload device. Pettersen coil spring device is a very stiff compression spring, deliberately so stiff that a child sitting on it can only rock back and forth (fig.1) and not bounce. If the spring were less stiff in order to enable the child to bounce the rocking horse would keel over under the weight of the child and cause severe injury. The devise is not mobile. Haverman toy is a completely confined stiff compression spring designed for a one-shot action. Whereas our string (17) is not necessary for the action of the toy but is used to prevent damage to the spring by over-stretching it when carried by the head, Haverman's

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spring (L) attached to base (B) and base (D) is necessary for the action of the toy preventing the spring from stretching too far upward and thus allowing the base (D) with the comic figure (E) on it to leave the container (A) and fall over. The same is true of Thomas's articulated toy. His string (36) is necessary for the action of the toy preventing the beer mug from hitting the figure in the face.   Leach amusement device is a stiff spring, confined, limited action, one-shot compression spring similar in many respects to Thomas and Haverman. Ford leaping figure toy is again a stiff spring totally confined compression spring with a limited one-shot and reload action. Goldfarb impact reaction toy again is a stiff spring totally confined compression spring with a limited one-shot and reload action. Goldfarb game apparatus and time-delay action unit is again a stiff spring confined compression spring with a limited one-shot and reload action. Fels rocket-simulative toy is again a stiff spring confined compression spring with a limited one-shot and reload action. Chinnock jumping-toy is again a stiff spring totally confined compression spring with its action limited by tube (A) and string (H) to a one-shot and reload action.

The most obvious conclusion is that if our soft spring compression spring replaced any of the above prior art examples of stiff spring compression spring toys none of them would operate. If the soft Slinky spring would replace any of the stiff springs in other extension spring patents, such as the screen door spring, none of them would operate. Soft springs are not one-shot springs. When set in motion they will stay in motion and with a properly balanced weight they will continue to oscillate for a considerable length of time. The balancing weight on a watch hair-spring is called the 'balance wheel'. The balance weight on a Slinky is its own extra weight at the top when it is placed below the level of its base

spring is to all the other stiff spring compression springs. There was no prior art for the soft spring Slinky and there is no prior art for our soft spring gyrating toy.

Enclosures: Glossary of spring definitions; Hooks Law.

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How to Make Springs

GLOSSARY

These are many of the common words that have definitions in the springmaking field. The definitions are my own (caveat) and are admittedly not complete. This is not a dictionary — it's just another tool